Syllabus

Name of the Course: B. Voc (Production Technology)

Semester I

Subject Name: Machine Tool Technology	
Course Code : **BVPTC101**	Semester: **I**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		Hours
Unit – I	**1.0 CENTRE LATHE**	08
	The centre lathe and its principle of working, Types of lathes, Lathe specification and size, Features of lathe bed, Head stock and tail stock, Feed mechanism and change-gears. carriage saddle, Cross slide, Compound rest, Tool post, Apron mechanism, lathe accessories, Chucks, Face plate, Angle plate, Driving plate, Lathe doges, mandrils, Steady rest, Lathe attachments, Lathe operations-plane and step turning, Taper turning, Screw cutting, Drilling, Boring, reaming, Knurling, Parting off, Under cutting, Relieving, Types of lathe tools and their uses, Brief description of semi automatic lathes such as capstan and turret lathes, their advantages and disadvantages over centre lathe, types of job done on them. General and periodic maintenance of a centre lathe.	
Unit – II	**2.0 SHAPING, PLANING & SLOTTING MACHINES**	07
	Working principles of planer, shaper and Slotter, Differences and similarities among them, quick return mechanism applied to the machines. types of work done on them, types of tools used, their geometry, General and periodic maintenance of a shaper. DRILLING & BORING MACHINES: Types of tools used in drilling and boring. Classification of drilling and boring machines, principle of working and constructional details of simple and radial drilling M/C and general and periodic maintenance. Operations like facing, counter boring, tapering.	
Unit – III	**3.0 MILLING MACHINES**	07
	Types of milling machines, constructional features of horizontal milling M/C. general maintenance of the machine, types of milling cutters, milling operations like plane milling, space milling, angular milling form milling, straddle milling, gang milling, Negative rake milling, cutting speed and speed for different tools in up and down milling. Simple, compound and differential indexing, milling of spur gears and racks.	
Unit – IV	**4.0 GRINDING MACHINES**	07
	Common abrasives, grinding wheel materials, Bonds, Grain and grit of abrasive, Grain structure and shapes of common wheels, various speeds and feeds, Use of coolants, Methods of grinding, Types of grinding machines, precision finishing operations like honing. BROACHING MACHINES: Types of work done on broaching machine. Simple types of broaches and their uses, Types of broaching machines.	
Unit – V	**5.0 JIGS AND FIXTURES**	07

	Object of Jigs and Fixture, Difference between jigs and fixtures, Principle of location, Principle of clamping, Locating and clamping devices. Types of jigs - Simple open and closed (or box) jigs. Drill jigs- bushes (Fixed, Liner, Renewal, Slip). Template, Plate jigs. Channel jigs, Leaf jigs, Simple example of milling, turning, grinding, horizontal boring fixtures and broaching fixtures. Welding fixtures COOLING PROCESS: Cooling and cutting fluids, difference between coolant and cutting fluid, function and action of cutting fluids, Requirement of good cutting fluids, their selection for different materials and operations AUTOMATION OF MACHINE TOOLS: Introduction to CNC lathe (Computer Numerical Control Lathe) and FMS (Flexible Manufacturing System) Introduction only.	

Books

Name of Authors	Title of the Book	Publisher
Jain & Gupta	Production Technology	Khanna
J K Kumar	Machine Tool Technology (Hindi)	
Hazra & Choudhary	Workshop Technology Vol. II	Tata MCGraw Hill
P C Sharma	Production Technology	S Chand

Subject Name: **General Mechanical Engineering – II**	
Course Code : **BVPTC102**	Semester: **I**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		Hours
Unit – I	**1.0 Basics of Thermodynamics**	08
	Basic definition of heat, work, Thermodynamic process, parameters of working body and their units, Equation of state, Universal gas constant, Relation between heat capacity and temperature. Determination of quantity of heat.	
Unit – II	**2.0 Laws of Thermodynamics**	07
	Elementary concept of laws of thermodynamics, first law and second law, Graphical representation of process, The work of expansion and compression of a gas, Change in the state of ideal gas-Isochoric, Isothermal and Adiabatic process, Carnot-cycle.	
Unit – III	**3.0 IC ENGINES**	07
	External & internal combustion engines, working of diesel and petrol engine, horse power of IC engines.	
Unit – IV	**4.0 Steam Generators & Condensers**	07
	Construction and working of Babcock & Wilcox boiler, Cochran boiler, Steam condenser & its types.	
Unit – V	**5.0 Steam & Gas Turbines**	07
	Steam turbine, classification and principle of operation, gas turbine.	

Books

Name of Authors	Title of the Book	Publisher
Khurmi & gupta	Mechanical engineering	S Chand
Jk kapoor	General mechanical engineering	
P k nag	Basic applied thermodynamic	Tata MCGraw Hill
Khurmi & gupta	Thermal engineering	S Chand

Subject Name: Production Technology	
Course Code : **BVPTC103**	Semester: **I**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		Hours
Unit – I	**1.0 PRODUCTION MACHINE TOOLS**	08
	Machine tools used for quantity production, semi automatic multi tools centre lathe. Auto-lathes, sliding head types, Single spindle automatics, Multi-spindle automatics, Mechanical copying systems, Hydraulic servo copying systems for lathe, Electric copying systems. TRANSFER MACHINES: Types of productions. Types of layout, Economic justification of transfer machines, Inline transfer, drum type transfer machines. Automatic loading & Transferring methods, Machining heads, Automatic inspections, Tool servicing, Transfer press linked lines.	
Unit – II	**2.0 GENERATION OF FORMS:**	07
	Forming `V' generating. Thread chasing. Die heads. Thread rolling. Thread milling. Thread grinding. Gear planning, Gear shaping, Gear hobbing, Straight Bevel Gear Manufacture. Spiral bevel Gear Manufacture.	
Unit – III	**3.0 SURFACE TREATMENT & FINISHING**	07
	Meaning of the terms surface treatment and its purpose, Elements of surface treatment cleaning protecting, Colouring, Altering surface properties. Surface Treatment Processes- Wire brushing, Belt sanding, Alkaline cleaning, Vapour degreasing, Pickling, Latest trends in Surface preparation, Ultrasonic cleaning, Solvent cleaning, Painting application by dipping, Hand spraying, Automatic spraying, Electrostatic spray finishing. Electro-coating, Hot dip coating, phosphate coating- Packerising and bonderasing, Buffing,. Blackening, Anodising. Electro Nickle Plating, Nickle carbide plating, Sputtering, Automation in Painting. AUTO CONTROL OF SIZE: Auto sizing, Mechanical calliper for turning operation, Pneumatic sizing of external cylindrical ground work, Pneumatic slide position measuring device, Digital slide position measuring device, Auto sizing device for centre-less grinding operation. Friction rollers, Optical measurement.	
Unit – IV	**4.0 CUTTING TOOLS FOR MACHINING**	07
	Elements of machining process, Single point tools - Basic angles, Chip formation, Effect of manipulating factors such as velocity, size of cut, effect of tool geometry, Tool material, Cutting fluids and contamination in them, Work piece material, Tool life model, Machining economics, Specific power consumption. Basic principles of multipoint tools, Linear travel tools, Broaches, Gear shaper cutters,. Axial feed rotary tools-Twist drill, Reamers, Core drills, Counter bores and counter sinks, Multiple diameter tools, Hobs. Characteristics of tools materials,. Tool materials, Tool steels, High speed steel, Cast cobalt alloys. Carbides or cintered carbide, Ceramics, Carbide tools Surface treatment of cutting tools- Its advantage, Tin coated high speed steel diamonds. Cubic boron nitrides,. Specialised knowledge of steel cutting.	
Unit – V	**5.0 PRESS TOOLS**	07

	Factors affecting press tool design, Shearing, Bending, Drawing, Combination tools, Progression tools, Rubber die formatting, high energy forming, Explosive forming. SPECIFICATION OF QUALITY & RELIABILITY: Quality, Specification Designing for production Standardisation, Preferred numbers, Limits and fits, Tolerance build up, Geometric tolerances. Limit gauging.	

Books

Name of Authors	Title of the Book	Publisher
P C Sharma	Production Engineering	S Chand
Tool Design	Donaldson	Tata McGrow Hill
Technology of Machine Tool	Krar	Tata McGrow Hill
Production technology	C K Singh	

Subject Name: Metrology and Measuring Instruments	
Course Code : **BVPTC104**	Semester: **I**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		**Hours**
Unit – I	**1.0 INTRODUCTION**	08
	Meaning and scope of metrology in field of engineering, Standards and types of measurements (Line and Wave, length, Primary, Secondary and Tertiary measurement concept only). Limits, Fits and Tolerances, Interchangeability, precision and accuracy, Sources of error PRINCIPLES AND CLASSIFICATIONS OF MEASURING INSTRUMENTS: (a) Principle of Mechanical Measuring Instruments: Lever method, Vernier method, screw and screw nut method, compound gearing and helical spring methods. (b) Principles of Optical Instruments: Reflection, Refraction, Interference, Polarisation, Optical prisms, Lenses and Optical projectors. (c) Principles of Electrical measuring Instruments. (d) Principles of Hydraulic and Pneumatic Instruments.	
Unit – II	**2.0 COMPARATORS**	07
	General principles of constructions, balancing and graduation of measuring instruments, characteristics comparators, use of comparators, difference between comparators, limit gauges and measuring instruments. Classification of comparators, construction and working of dial indicator, mechanical comparator, mechanical-optical, zeiss optotest, electro limit, electromechanical electronics, pneumatic comparators, gauges, tool makers microscope.	
Unit – III	**3.0 SURFACE FINISH**	07
	Geometrical characteristics of surface roughness- Wavyness, layflaws, Effect of surface quality on its functional properties. Factor affecting the surface finish, Drafting symbols for surface roughness, Evaluation of surface finish RMS and CLS values, Methods of measuring surface roughness qualitative and quantitative methods, Comparison of surface produce by common production methods.	
Unit – IV	**4.0 VARIOUS TYPES OF INSTRUMENTS USED FOR**	07

	(i) (a) Physical Measurements such as-Length, distance, height, Thickness, Gaps, Curvature, Angle, Taper, Area, Undulations, Surface finish, Thread and Gear measurement (b) Liquid Level & Viscosity-Liquid level measuring methods and devices, Viscometer - Plate and cone Viscometer, Two float viscometer, Rheo viscometer. (ii) Mechanical Quantities: (a) Displacement. velocity, acceleration, space troque-Use of transducers and electronic count stroboscope, vibrating reeds and technometers (b) Pressure and Vacuum - Idea of atmosphere pressure, Gauge pressure and vacuum - Use of instruments such as manometers and those use elastic elements such as diaphragm, capsule Bellows, Bourdon tube and various transducers thermo couple, vacuum gauges (c) Strain - Use of Strain gauge and load cells (d) Mechanical Power - Dynomometers - absorption and transmission type both. (Reference Only). TEMPERATURE MEASUREMENT: Various types of thermometers, thermocouples, pyrometers (Radiation and optical type both).	
Unit – V	**5.0 INSPECTION OF GEOMETRICAL ERRORS**	07
	Construction and working of auto collimeter, checking of straightness, flatness, squareness and parallelism, circularity (By dial gauge and telerod). MAINTENANCE OF MEASURING INSTRUMENTS: Defects likely to occur in measuring instruments and their remedies. General maintenance of measuring instruments.	

Books		
Name of Authors	**Title of the Book**	**Publisher**
RK Jain	Engineering Metrology	Khanna
RK Jain	Mechanical Measurement	----
M Mahajan	A text book of metrology	Dhanapat Rai and Sons

Subject Name: Metrology and Measuring Instruments lab	
Course Code : **BVPTL105**	Semester: **I**
Weekly Practicals: PR: **01** Tut: **00**	Scheme of Marking TH: **--**
TH Exam Duration: **--**	Scheme of Marking PR: **25,** IA: **25,** Total: **50**
Credit:**1.5**	

Content

1. Measurement of angle with the help of sine bar/ Vernier Bevel protractor.
2. Study and sketch of various types of optical projectors.
3. Study and sketch of various types of comparators and use them for comparing length of given piece.
4. To measure the diameter of a hole with the help of precision balls.
5. To measure external and internal taper with the help of taper gauges, precision rollers.
6. To test the squareness of a component with auto-collimeter.
7. To measure the pitch, angle and form of thread of a screw.
8. To measure the geometry of a gear having involute profile.
9. To measure the straightness of the edge of a component with the help of auto-collimeter.
10. To measure the length, breadth, thickness, depth, height with micrometer.
11. To measure the length, breadth, thickness, depth, height, with height gauge and Vernier calipers.
12. Calibration of Vernier calipers/micrometers.
13. Calibration of height gauge/depth gauge.
14. Study of a tool maker's microscope.
15. Checking of accuracy of snap gauge with slop gauge.
16. Checking of accuracy of a plug gauge with micrometer.
17. Measurement of areas by polar planimeter.
18. Use of feeler, wire, radius and fillet gauges measurement of standard parameters.

- **Minimum 10 practical should be conducted**

Subject Name: Machine Tool Technology Lab	
Course Code : **BVPTL106**	Semester: **I**
Weekly Practicals: PR: **01** Tut: **00**	Scheme of Marking TH: **--**
TH Exam Duration: **--**	Scheme of Marking PR: **25,** IA: **25,** Total: **50**
Credit:**1.5**	

Content
(A) MACHINE SHOP 1. (a) Square thread cutting (internal and external) - 2 jobs (b) Multi-start thread cutting - 1 job (c) Eccentric Turning - 1 job 2. Making utility job - Planner, Shaper, Slotter - 1 job 3. Group work on milling machine involving up & down milling in: (a) Gang milling - 1 job (b) Spur gear cutting - 1 job (c) Helical gear cutting - 1 job **(B) FITTING SHOP** 1. To make a cut and cup tool - 1 job 2. To make blank and pierce tool - 1 job 3. To make a male and female fitting jobs - 1 job 4. To grind a lathe/shaper/planer tool - 1 job 5. To make different types of keys - 3 jobs 6. To make complete gauge - 2 jobs **Minimum 5 jobs should be prepared from each of above group**

Group GPT1 of Qualifier Packs

Subject Name: Metal Arc Welding (CSC/Q0204)	
Course Code : **BVPTE117**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/MMAW%20L3.pdf	

Subject Name: MIG MAG or GMAW Welder (CSC/Q0209)	
Course Code : **BVPTE128**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/MIG_MAG%20or%20GMAW%20Welder.pdf	

Subject Name: Assistant TIG Welder (CSC/Q0212)	
Course Code : **BVPTE139**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/Assisstant%20Tungsten%20Inert%20Gas%20Welder%20(Final).pdf	

Subject Name: CNC Setter Cum Operator (CSC/Q0120)	
Course Code : **BVPTE140**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/CNC%20Setter%20cum%20operator%20-%20Turning.pdf	

Subject Name: CNC Operator – VMC (CSC/Q0116)	
Course Code : **BVPTE151**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/CGSC%20CNC%20Operator%20-%20Vertical%20Machining%20Centre.pdf	

***Skill Practical assessment will be done rules/ procedure of respective Skill Sector Council of India.**

Syllabus

Name of the Course: B. Voc (Production Technology)

Semester II

Subject Name: Industrial Management	
Course Code : **BVPTC201**	Semester: **II**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		**Hours**
Unit – I	**1.0 Introduction**	08
	Growth of industry, The management of men, materials and machines, the art of management, Sources of capital- industrial individual enterprise, private partnership and private Ltd. Co., Joint Stock Co. shares, debentures, financial agencies and their role in promoting industries. Break even analysis.	
Unit – II	**2.0 Private sector and public sector**	07
	Public sector enterprise, merits and demerits of public sector industry and private sector industry, Line, staff and functional organizations, reasons for the choice of various types of organization, functions of different departments, viz. stores, purchase and sales departments relationship between individual departments.	
Unit – III	**3.0 MILLING MACHINES**	07
	Definition of wages, real wage and nominal wage, systems of wage payment, incentives, financial and non - financial incentives, Essentials of a good wage plan, essentials of a good incentive scheme. Introduction to elements of cost & indirect expenses, Material cost, labour cost, fixed and variable overheads, components of cost, selling price, Factory expenses, administrative expenses, selling & distribution expenses, depreciation, obsolescence, interest on capital, Idleness, Repair and maintenance.	
Unit – IV	**4.0 Labour, industrial & tax laws**	07
	Evolution of industrial law, factory act, workmen compensation act, payment of wages act, employee's state insurance act, Industrial dispute act. Role of technician in industry: Position of technician in various engineering departments, Role of a supervisor in industry, Foremanship, duties and qualities of a good foreman.	
Unit – V	**5.0 Material management**	07
	Introduction, Scope of Material Management selective control techniques-ABC analysis, Material handling, inventory control, Essential steps in inventory control, quality standards.	

Books		
Name of Authors	**Title of the Book**	**Publisher**
O P Khanna	Industrial Engineering and Management	Dhanapat Rai and Sons
M Mahajan	Industrial Engineering	Dhanapat Rai and Sons
L C Zamb	Industrial Engineering	Everest

Subject Name: Total Quality Management	
Course Code : **BVPTC202**	Semester: **II**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		**Hours**
Unit – I	**1.0 Introduction, Basic concepts of total quality management**	08
	Introduction to Quality, Dimensions of Quality, Quality Planning, Concept and definition of quality cost, Determinants of Quality, Optimum cost of performance, Principles of TQM, Pillars of TQM, Introduction to leadership and Leadership roles, Quality council and Quality statement, Strategic Planning Process, Deming philosophy.	
Unit – II	**2.0 Continuous process improvement**	07
	Input /output process Model, Juran trilogy, PDCA Cycle, 5 –'S' Housekeeping principle, Kaizen Seven tools of Quality (Q-7 tools), Check Sheet, Histogram, Cause and effect diagram, Pereto diagram, Stratification analysis, Scatter diagram, Control charts, Control chart for variables & process capability, Control chart for attributes.	
Unit – III	**3.0 Management planning tools & Bench marking**	07
	Affinity diagram, Relationship diagram, Tree diagram, Matrix diagram, Matrix data analysis, Arrow Diagram, Process decision programme chart (PDPC), Concept of bench marking, Reason to bench marking, Bench marking process, Types of bench marking, Benefits of bench marking.	
Unit – IV	**4.0 Just in time (JIT)**	07
	JIT philosophy, Three elements of JIT, Principles of JIT Manufacturing, JIT Manufacturing building blocks, JIT benefits, Kanban & 2 Bin Systems.	
Unit – V	**5.0 Total productive maintenance (TPM)**	07
	Concept of Total Productive Maintenance, Types of maintenance, OEE (Overall Equipment Efficiency), Stages in TPM implementation, Pillars of TPM, Difficulties faced in TPM implementation.	

Books		
Name of Authors	**Title of the Book**	**Publisher**
M Mahajan	Industrial Engineering	Dhanapat Rai and
RK Jain	Engineering Metrology	Khanna

Subject Name: **Entrepreneurship**	
Course Code : **BVPTC203**	Semester: **II**
Weekly Teaching Hours: TH: **03** Tut: **00**	Scheme of Marking TH: **40,** IA: **10,** Total: **50**
TH Exam Duration: **02 Hours**	Scheme of Marking PR: **--**
Credit:**3**	

Content		Hours
Unit – I	**1.0 Entrepreneurship and entrepreneur**	08
	Need of Employment and Opportunities, Essential Characteristics of a good Entrepreneur, Industrial Policy, Classification of industries- Micro, small scale , Medium scale, Large scale, Type of industries- Production, Job based & Service.	
Unit – II	**2.0 Entrepreneurial Development**	07
	Product identification/ selection, Site selection, Plant layout, Institutional support needed, Pre-market survey.	
Unit – III	**3.0 Entrepreneurship Support System and Start-ups**	07
	Introduction to start-up's, Role of District Industries Centre in setting up industry, Function of NSIC, SISI, NISIET, NRDC, SSIC, SIDO, NMTC, KVIC, RSMML, Role of state finance corporation, state electricity corporations, pollution control board, BIS, I.S.O. etc.	
Unit – IV	**4.0 Introduction to Tax System, Insurance and Acts**	07
	Idea of income tax, sales tax, excise duty and custom duty, Industrial and fire insurance, procedure for industrial insurance, Introduction to Industrial acts, factory act, Workmen's compensation act 1923, Apprentices act 1961, Environmental protection act 1986.	
Unit – V	**5.0 Project Report Preparation**	07
	Procedure of preparing a project report, Format of project report, Preparation of project report, Introduction to ISO: 9000 Series of Quality System.	

Books

Name of Authors	Title of the Book	Publisher
E Gordon, K Natarajan	Entrepreneurship Development	Himalaya House
Dr R K Singal, Shruti Singal	Entrepreneurship Development	Katson Books
Robort A Baron	Entrepreneurship	E E Pub.

Subject Name: Project	
Course Code : **BVPTL204**	Semester: **II**
Weekly Practicals: PR: **03** Tut: **00**	Scheme of Marking TH: **--**
TH Exam Duration: **--**	Scheme of Marking PR: **75,** IA: **75,** Total: 1**50**
Credit:**6**	

Content
On the basis of learning in the vocational diploma, a project to be taken up by the student strengthening his/ her vocational skills

Group GPT2 of Qualifier Packs

Subject Name: Metal Arc Welding (CSC/Q0204)	
Course Code : **BVPTE117**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT2 of Qualification Packs other than that selected in GPT1.**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/MMAW%20L3.pdf	

Subject Name: MIG MAG or GMAW Welder (CSC/Q0209)	
Course Code : **BVPTE128**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT2 of Qualification Packs other than that selected in GPT1.**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/MIG_MAG%20or%20GMAW%20Welder.pdf	

Subject Name: Assistant TIG Welder (CSC/Q0212)	
Course Code : **BVPTE139**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT2 of Qualification Packs other than that selected in GPT1.**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/Assisstant%20Tungsten%20Inert%20Gas%20Welder%20(Final).pdf	

Subject Name: CNC Setter Cum Operator (CSC/Q0120)	
Course Code : **BVPTE140**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT2 of Qualification Packs other than that selected in GPT1.**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/CNC%20Setter%20cum%20operator%20-%20Turning.pdf	

Subject Name: CNC Operator – VMC (CSC/Q0116)	
Course Code : **BVPTE151**	Semester: **I**
Weekly Skilling Hours: PR: **24** Tut: **00**	Scheme of Marking TH: **00,** IA: **00,** Total: **00**
PR Exam Duration: **06 Hours**	Scheme of Marking PR: **200,** IA: **00,** Total: **200**
Credit:**15**	**Choose any one from specified Group GPT1 of Qualification Packs other than that selected in GPT1.**
Syllabus for this qualifier Pack is available on http://www.cgsc.in/pdf/CGSC%20CNC%20Operator%20-%20Vertical%20Machining%20Centre.pdf	

***Skill Practical assessment will be done rules/ procedure of respective Skill Sector Council of India.**